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IN THE DIFFERENT THEORIES which have been suggested to explain the constancy in the radiation from the sun, at least during considerable time-intervals, it has been generally supposed that the temperature of the sun has not varied essentially, and in order to explain this constant temperature it has been necessary to find some source for an accession to the sun's heat. For this purpose we have the chemical theory of burning, the meteorite theory of heat being produced by the falling into the sun of vast masses of meteors, and the theory of contraction. In all these theories it is assumed that the temperature of the sun must remain constant if the amount of warmth radiated from it is to remain the same, and that, if the temperature of the sun were to sink, the amount of energy radiated must decrease. Mr. John Aitken, in a recent number of the Proceedings of the Royal Society of Edinburgh, calls attention to the fact that these premises are not absolutely necessary, since the amount of radiated energy may increase even when the temperature decreases. The facts upon which he bases this possibility are the following: 1. It is known that the power of radiation varies with the form of the material, for instance, the flame of the Bunsen burner, although of a higher temperature, radiates less warmth than that of the ordinary gas-flame; 2. As a rule, the elements radiate less warmth than compounds, and observation has established that the amount of radiation increases with the complexity of the molecular structure; 3. It is well established that at high temperatures dissociation takes place, and compounds become less complex. We see, therefore, that in the sun, on account of its high temperature, substances must exist in less complex form than on the earth, to which conclusion many of the recent deductions of Lockyer specially point. It is therefore probable that the radiating power of the material of the sun is far less than that of the earth; also that the hotter the sun, the simpler its constitution, and just so much smaller its radiating power. It is, then, no longer necessary to assume that the temperature and the amount of radiated warmth from the sun are proportional. The temperature can decrease, and at the same time, on account of the change in the chemical constitution of the sun, the amount of radiation may increase. Sir William Thomson has recently calculated the numerical data, according to the Helmholtz theory of the sun's warmth, and has found that the sun would have to contract thirty-five metres yearly in order to produce the energy which it radiates according to Pouillet's measurements. In this connection it should be said that Langley's measurements give a far larger warmth-radiation from the sun, and that they are probably too small; so that the sun would have to contract much more than thirty-five metres a year in order to produce its radiating energy through the force of gravity. But evidently energy would be produced in the sun in other ways during the cooling-off. The falling temperature, for instance, would allow of compounds being produced, which act of burning, as it were, would add to the temperature. Mr. Aitken acknowledges that his suggestions are of the nature of speculations, but he has published them in order to bring out the possibilities that the radiating power of the sun may have changed, qualitatively and quantitatively, from time to time, that its amount does

not necessarily vary directly with the temperature, and that it is very doubtful whether we may apply to the material of the sun the observations on radiation which we have obtained in the laboratory.

AMONG THE 'MOVEMENTS' agitating the country is one known as the 'Old South Work.' This is not, as might be supposed, a move to stop the growth of the 'New South,' of which we hear so much, but an attempt, and a vigorous one, which started with some public-spirited ladies of Boston, with Mrs. Mary Hemenway at the head, to interest and instruct the population now living within the borders of the United States in the history of the country, especially in so far as it has an influence on present conditions. Too much time has been spent in the schools in laying before the pupils the, at this epoch, unimportant details of the early Indian wars, with the result of leaving them uninformed of later events, the effects of which have a much more immediate influence on their lives. Many believe that the American mind is empty of American history, and fear that this may lead to ignorance of those principles which have given us the success which is now our portion. But why call this movement to educate Americans in what their fathers and their grandfathers did the 'Old South Work'? It is simply that because of this ignorance, which bred indifference, the people of Boston were willing a few years ago that the Old South Church, one of the theatres for some of the most stirring acts of the Revolution, should be wiped from the face of the earth. To save the building as a reminder of the revolutionary deeds of Boston, Mrs. Hemenway gave liberally of her time and money. This was one act in striving to interest Americans in America and her history; and for some years Mrs. Hemenway was nearly alone in sustaining the 'Old South Work.' Now we are glad to chronicle that the movement has grown, and has gone West. At Chicago Mr. Edwin D. Mead has instituted a series of lectures. In Madison, Wis., a similar course has proved so popular that hundreds have been turned away each evening for lack of room. Again, in Indianapolis this instruction of Americans in what Americans have done has been found to meet such approval as to lead to similar courses in the larger towns of Indiana. We hope, that, like most 'movements' which go from the East to the West, this may prove to have the necessary staying qualities, and that the rising generation may know how the political problems they have to solve have grown from what went before.

THE GOVERNMENT EXHIBIT AT CINCINNATI.

THE National Museum, the Smithsonian Institution, the United States Geological Survey, and the Bureau of Ethnology will make a joint exhibition at the Cincinnati Centennial. Although the time for preparation has been very short, the law making the necessary appropriation not having been approved until May 28, the government scientific exhibits will be in Cincinnati in good season, and will constitute one of the most interesting features of the exposition.

In determining what to show, those in charge have been greatly embarrassed by the abundance of material from which to choose. Cases of selected objects will be taken from several departments of the National Museum, but mainly from the departments of anthropology, zoölogy, and of arts and industries. Those selected from the department of anthropology will illustrate the plan upon